

Patent claims

1. A circuit arrangement having a low temperature coolant circuit (1) for cooling charge air in a motor vehicle having a supercharger with a charge-air/coolant radiator (2), **characterized** in that a temperature sensor (4) is provided at the coolant outlet of the charge-air/coolant radiator (2) or a short distance downstream for measuring the coolant outlet temperature.
2. The circuit arrangement as claimed in claim 1, characterized in that the coolant flow rate is controlled as a function of the determined coolant temperature.
3. The circuit arrangement as claimed in claim 1 or 2, characterized in that the temperature sensor (4) is a thermostat.
4. The circuit arrangement as claimed in one of the preceding claims, characterized in that the temperature sensor (4) is integrated into a plastic part which serves to carry coolant.
5. The circuit arrangement as claimed in claim 4, characterized in that the plastic part is produced by means of plastic injection-molding.
6. The circuit arrangement as claimed in one of the preceding claims, characterized in that the low temperature coolant circuit (1) is connected to a main coolant circuit (11), so that there is an exchange of coolant.
7. The circuit arrangement as claimed in claim 6, characterized in that a control valve (7) is

arranged in the low temperature coolant circuit (1).

- 5 8. The circuit arrangement as claimed in claim 7, characterized in that the control valve (7) is arranged upstream of a low temperature coolant radiator (3) or upstream of the charge-air/coolant radiator (2).
- 10 9. The circuit arrangement as claimed in one of the preceding claims, characterized in that the coolant traveling from the charge-air/coolant radiator (2) is fed upstream of a pump (P) to a main coolant circuit (11).
- 15 10. A method for operating a circuit arrangement (K) having a low temperature circuit (1) for cooling charge air in a motor vehicle having a supercharger with a charge-air/coolant radiator (2), **characterized** in that the coolant flow rate through the charge-air/coolant radiator (2) is controlled as a function of the coolant temperature determined at the charge-air/coolant radiator (2).
- 20 11. The method as claimed in claim 10, characterized in that the coolant flow rate through the charge-air/coolant radiator is controlled taking into consideration a rotational speed and/or load, in particular of a drive engine of the motor vehicle, a traveling speed of the motor vehicle, an outside temperature and/or an ambient pressure.
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